



PCT09

RAW SEQUENCE LISTING

DATE: 06/12/2002

PATENT APPLICATION: US/09/937,735

TIME: 11:11:00

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3 <110> APPLICANT: McMahon, Andrew P
 4 Kispert, Andreas
 5 Vainio, Seppo
 7 <120> TITLE OF INVENTION: Induction of Kidney Tubule Formation
 9 <130> FILE REFERENCE: 21508-033 NATL
 11 <140> CURRENT APPLICATION NUMBER: 09/937,735
 C--> 12 <141> CURRENT FILING DATE: 2002-04-29
 14 <150> PRIOR APPLICATION NUMBER: PCT/US99/07745
 15 <151> PRIOR FILING DATE: 1999-04-08
 17 <160> NUMBER OF SEQ ID NOS: 12
 19 <170> SOFTWARE: PatentIn Ver. 2.1
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 22 <211> LENGTH: 370
 23 <212> TYPE: PRT
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 33 Arg Trp Trp Gly Ile Val Asn Val Ala Ser Ser Thr Asn Leu Leu Thr
 34 35 40 45
 36 Asp Ser Lys Ser Leu Gln Leu Val Leu Glu Pro Ser Leu Gln Leu Leu
 37 50 55 60
 39 Ser Arg Lys Gln Arg Arg Leu Ile Arg Gln Asn Pro Gly Ile Leu His
 40 65 70 75 80
 42 Ser Val Ser Gly Gly Leu Gln Ser Ala Val Arg Glu Cys Lys Trp Gln
 43 85 90 95
 45 Phe Arg Asn Arg Arg Trp Asn Cys Pro Thr Ala Pro Gly Pro His Leu
 46 100 105 110
 48 Phe Gly Lys Ile Val Asn Arg Gly Cys Arg Glu Thr Ala Phe Ile Phe
 49 115 120 125
 51 Ala Ile Thr Ser Ala Gly Val Thr His Ser Val Ala Arg Ser Cys Ser
 52 130 135 140
 54 Glu Gly Ser Ile Glu Ser Cys Thr Cys Asp Tyr Arg Arg Arg Gly Pro
 55 145 150 155 160
 57 Gly Gly Pro Asp Trp His Trp Gly Gly Cys Ser Asp Asn Ile Asp Phe
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 60 Gly Arg Leu Phe Gly Arg Glu Phe Val Asp Ser Gly Glu Lys Gly Arg
 61 180 185 190
 63 Asp Leu Arg Phe Leu Met Asn Leu His Asn Asn Glu Ala Gly Arg Thr
 64 195 200 205
 66 Thr Val Phe Ser Glu Met Arg Gln Glu Cys Lys Cys His Gly Met Ser

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69 Gly Ser Cys Thr Val Arg Thr Cys Trp Met Arg Leu Pro Thr Leu Arg
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73      245      250      255
75 Leu Tyr Gly Asn Arg Gly Ser Asn Arg Ala Ser Arg Ala Glu Leu Leu
76      260      265      270
78 Arg Leu Glu Pro Glu Asp Pro Ala His Lys Pro Pro Ser Pro His Asp
79      275      280      285
81 Leu Val Tyr Phe Glu Lys Ser Pro Asn Phe Cys Thr Tyr Ser Gly Arg
82      290      295      300
84 Leu Gly Thr Ala Gly Thr Ala Gly Arg Ala Cys Asn Ser Ser Ser Pro
85 305      310      315      320
87 Ala Leu Asp Gly Cys Glu Leu Leu Cys Cys Gly Arg Gly His Arg Thr
88      325      330      335
90 Arg Thr Gln Arg Val Thr Glu Arg Cys Asn Cys Thr Phe His Trp Cys
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94      355      360      365
96 Cys Leu
97      370

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100 <210> SEQ ID NO: 2

101 <211> LENGTH: 133

102 <212> TYPE: PRT

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112 Tyr Asp Ser Ala Ser Glu Met Val Val Glu Lys His Arg Glu Ser Arg

113 35 40 45

115 Gly Trp Val Glu Thr Leu Arg Pro Arg Tyr Thr Tyr Phe Lys Val Pro

116 50 55 60

118 Thr Glu Arg Asp Leu Val Tyr Tyr Glu Ala Ser Pro Asn Phe Cys Glu

119 65 70 75 80

121 Pro Asn Pro Glu Thr Gly Ser Phe Gly Thr Arg Asp Arg Thr Cys Asn

122 85 90 95

124 Val Ser Ser His Gly Ile Asp Gly Cys Asp Leu Leu Cys Cys Gly Arg

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135 <211> LENGTH: 133

136 <212> TYPE: PRT

137 <213> ORGANISM: Homo sapiens

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147           35           40           45
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150           50           55           60
152 Leu Val Tyr Leu Glu Pro Ser Pro Asp Phe Cys Glu Gln Asp Met Arg
153   65           70           75           80
155 Ser Gly Val Leu Gly Thr Arg Gly Arg Thr Cys Asn Lys Thr Ser Lys
156           85           90           95
158 Ala Ile Asp Gly Cys Glu Leu Leu Cys Cys Gly Arg Gly Phe His Thr
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178           20           25           30
180 Gly Ala Thr Ile Ile Cys Asn Lys Ile Pro Gly Leu Ala Pro Arg Gln
181           35           40           45
183 Arg Ala Ile Cys Gln Ser Arg Pro Asp Ala Ile Ile Val Ile Gly Glu
184           50           55           60
186 Gly Ser Gln Met Gly Leu Asp Glu Cys Gln Phe Gln Phe Arg Asn Gly
187   65           70           75           80
189 Arg Trp Asn Cys Ser Ala Leu Gly Glu Arg Thr Val Phe Gly Lys Glu
190           85           90           95
192 Leu Lys Val Gly Ser Arg Asp Gly Ala Phe Thr Tyr Ala Ile Ile Ala
193           100          105          110
195 Ala Gly Val Ala His Ala Ile Thr Ala Ala Cys Thr His Gly Asn Leu
196           115          120          125
198 Ser Asp Cys Gly Cys Asp Lys Glu Lys Gln Gly Gln Tyr His Arg Asp
199   130          135          140
201 Glu Gly Trp Lys Trp Gly Gly Cys Ser Ala Asp Ile Arg Tyr Gly Ile
202 145          150          155          160
204 Gly Phe Ala Lys Val Phe Val Asp Ala Arg Glu Ile Lys Gln Asn Ala
205           165          170          175
207 Arg Thr Leu Met Asn Leu His Asn Asn Glu Ala Gly Arg Lys Ile Leu
208           180          185          190
210 Glu Glu Asn Met Lys Leu Glu Cys Lys Cys His Gly Val Ser Gly Ser
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213 Cys Thr Thr Lys Thr Cys Trp Thr Thr Leu Pro Gln Phe Arg Glu Leu
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216 Gly Tyr Val Leu Lys Asp Lys Tyr Asn Glu Ala Val His Val Glu Pro
217 225      230      235      240
219 Val Arg Ala Ser Arg Asn Lys Arg Pro Thr Phe Leu Lys Ile Lys Lys
220      245      250      255
222 Pro Leu Ser Tyr Arg Lys Pro Met Asp Thr Asp Leu Val Tyr Ile Glu
223      260      265      270
225 Lys Ser Pro Asn Tyr Cys Glu Glu Asp Pro Val Thr Gly Ser Val Gly
226      275      280      285
228 Thr Gln Gly Arg Ala Cys Asn Lys Thr Ala Pro Gln Ala Ser Gly Cys
229      290      295      300
231 Asp Leu Met Cys Cys Gly Arg Gly Tyr Asn Thr His Gln Tyr Ala Arg
232 305      310      315      320
234 Val Trp Gln Cys Asn Cys Lys Phe His Trp Cys Cys Tyr Val Lys Cys
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254      35      40      45
256 Pro Thr Phe Leu Arg Ile Lys Gln Leu Arg Ser Tyr Gln Lys Pro Met
257      50      55      60
259 Glu Thr Asp Leu Val Tyr Ile Glu Lys Ser Pro Asn Tyr Cys Glu Glu
260 65      70      75      80
262 Asp Ala Ala Thr Gly Ser Val Gly Thr Gln Gly Arg Ile Cys Asn Arg
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265 Thr Ser Pro Gly Ala Asp Gly Cys Asp Thr Met Cys Cys Gly Arg Gly
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VERIFICATION SUMMARY

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